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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,299	06/27/2003	Matthew F. Russell	RU01-P11-2	8035

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EXAMINER	
SALDANO, LISA M	

ART UNIT	PAPER NUMBER
3673	

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/609,299	RUSSELL ET AL.	
	Examiner	Art Unit	
	Lisa M. Saldano	3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *37-65* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *37-65* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 37-65 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 6,616,380. Although the conflicting claims are not identical, they are not patentably distinct from each other because both inventions pertain to a subterranean structure and method for constructing substerranean structures with common structural features.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 37, 38, 40 and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Ino et al (JP-03013691-A).

Regarding claims 37, 38, 40 and 41, Ino et al disclose a construction method for an underground tunnel comprising spiral excavation downward into natural ground, which includes soil, to form an underground ramp (see Fig. 1 and abstract). Ino et al disclose spirally installing concrete floor plates 2 and fixing those spiral concrete floor plates 2 to continuous underground walls 1. First portions of the spiral concrete floor plates are used as a ceiling, then a lower portion of natural ground is downwardly and spirally excavated under the first portion of the concrete floor plate to install a second portion of the spiral concrete floor plate. The process yields a structure having an essentially continuous concrete slab with first portions above and spaced apart from second portions (see Figs. 1, 3 and 4). Ino discloses that the process is repeated to construct an underground rampway 8 with first, second and third lifts of the rampway located above/below one another. Further, Ino discloses that two underground walls that function as sheet piling are forced under the ground (see abstract). According to the Merriam Webster Collegiate Dictionary, 10th edition, a definition of the word drive includes *force, to exert inescapable or coercive pressure on.* Therefore, the walls or sheet piles are driven into the ground. The first and second portions are joined via their connection at their inner and outer perimeters to the walls 1, that function also as sheet piling.

Ino et al disclose a construction method for an underground tunnel as described above wherein first and second portions of the concrete slab are generally in alignment with each other.

Ino et al further disclose continuous underground walls 1 that join the first and second sections of the concrete slab at both the inner and the outer perimeters (see Fig. 4).

Ino et al disclose a construction method for an underground tunnel as described above wherein continuous underground walls 1 are forced to each other under the ground before installing the concrete floor plates that are fixed to the underground walls (see abstract).

Ino et al disclose a construction method for an underground tunnel as described above wherein a third portion of the concrete slab is installed below and spaced apart from first and second portions of the spiral concrete floor plate. The third portion is installed after natural ground is further excavated to extend a downward spirally sloping ramp to a location below the first and second portions.

Ino et al disclose a construction method for an underground tunnel as described above wherein the concrete slab defines a plurality of concrete flights defines by an inner and outer perimeter. Ino et al further disclose underground walls attached to the inner and outer perimeters of the concrete slab whereby uppermost portions of the concrete slab form a roof over the concrete slab.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ino et al (JP-03013691-A) as applied to claim 37 above, and further in view of Kawaguchi (JP-2001032277-A).

Ino et al (JP-03013691-A) disclose the features described above.

However, Ino et al (JP-03013691-A) fail to explicitly disclose a water jetting process.

Kwaguchi discloses an obstacle pile extracting method wherein high-pressure water jetting means are used for excavating the earth along the surface of an obstacle pile.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the process disclosed by Ino et al (JP-03013691-A) to include a high-pressure water jetting means as disclosed by Kawaguchi, because water pressure jetting means are commonly used in the art for the purpose of removing or displacing material, such as taugt by Kawaguchi.

5. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ino et al (JP-03013691-A) as applied to claim 41 above, and further in view of Ino et al (JP-03017311-A).

Ino et al (JP-03013691-A) disclose the features described above.

However, Ino et al (JP-03013691-A) fail to explicitly disclose a excavating soil out of the enclosed inner area.

Ino et al (JP-03017311-A) discloses a continuos underground wall method comprising two external underground walls 10, a continuous underground spiral ramp 30 and a closed inner area comprising an area excavated of soil.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ino et al (JP-03013691-A) to comprise an excavated inner area, as

taught by Ino et al (JP-03017311-A) because the excavated area of the invention provides for an underground space that can be used for various purposes, such as storage of objects.

6. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ino et al (JP-03013691-A) in view of Ino et al (JP-03017311-A), as applied to claim 42 above, in further view of Murio (5,775,043).

Ino et al (JP-03013691-A) and Ino et al (JP-03017311-A) disclose the features described above.

However, Ino et al (JP-03013691-A) and Ino et al (JP-03017311-A) fail to explicitly disclose a top cover.

Murio discloses an underground construction comprising wall elements 12 and inner slab portions 16. The invention further comprises a topmost slab portion that functions as a top cover for the underground construction.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ino et al (JP-03013691-A) to comprise a top cover, as taught by Murio, because the cover functions to protects whatever is placed in the excavated portion, such as illustrated by Murio.

7. Claims 54-59 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ino et al (JP-03013691-A).

Ino et al disclose a construction method for an underground tunnel comprising spiral excavation downward into natural ground, which includes soil, to form an underground ramp (see Fig. 1 and abstract). Ino et al disclose spirally installing concrete floor plates 2 and fixing those spiral concrete floor plates 2 to continuous underground walls 1. First portions of the spiral concrete floor plates are used as a ceiling, then a lower portion of natural ground is downwardly and spirally excavated under the first portion of the concrete floor plate to install a second portion of the spiral concrete floor plate and thereafter a third portion. The process yields a structure having an essentially continuous concrete slab with first portions above and spaced apart from second portions (see Figs. 1, 3 and 4). Ino discloses that the process is repeated to construct an underground rampway 8 with first, second and third lifts of the rampway located above/below one another. Further, Ino discloses that two underground walls that function as sheet piling are forced under the ground (see abstract). According to the Merriam Webster Collegiate Dictionary, 10th edition, a definition of the word drive includes *force, to exert inescapable or coercive pressure on.* Therefore, the walls or sheet piles are driven into the ground. The first and second portions are joined via their connection at their inner and outer perimeters to the walls 1, that function also as sheet piling and inner and outer caissons.

Although Ino et al (JP-03013691-A) fail to explicitly disclose that the method comprises a step wherein no wall element of the subterranean structure is provided until after at least some of the concrete slab has been formed, Ino et al's method does not preclude such a step. The limitations of claim 54 include a negative limitation. Ino et al's method is fully capable of permitting at least a portion of concrete slab prior to forming the wall element. Furthermore, a small formation of the concrete slab prior to formation of the wall would serves as a placeholder

and indicator or where to force or drive the wall members into the earth prior to full on formation of the continuous concrete slab.

Further regarding claim 56, Ino et al's wall elements are capable of and may be manufactured or formed by cast concrete or sprayed concrete, then cured, and finally installed by the method steps provided in the disclosure.

8. Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ino et al (JP-03013691-A) as applied to claim 57 above, and further in view of Ino et al (JP-03017311-A).

Ino et al (JP-03013691-A) disclose the features described above.

However, Ino et al (JP-03013691-A) fail to explicitly disclose a excavating soil out of the enclosed inner area.

Ino et al (JP-03017311-A) discloses a continuos underground wall method comprising two external underground walls 10, a continuous underground spiral ramp 30 and a closed inner area comprising an area excavated of soil.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ino et al (JP-03013691-A) to comprise an excavated inner area, as taught by Ino et al (JP-03017311-A) because the excavated area of the invention provides for an underground space that can be used for various purposes, such as storage of objects.

9. Claim 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ino et al (JP-03013691-A) in view of Ino et al (JP-03017311-A), as applied to claim 60 above, in further view of Murio (5,775,043).

Ino et al (JP-03013691-A) and Ino et al (JP-03017311-A) disclose the features described above.

However, Ino et al (JP-03013691-A) and Ino et al (JP-03017311-A) fail to explicitly disclose a top cover.

Murio discloses an underground construction comprising wall elements 12 and inner slab portions 16. The invention further comprises a topmost slab portion that functions as a top cover for the underground construction.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ino et al (JP-03013691-A) to comprise a top cover, as taught by Murio, because the cover functions to protects whatever is placed in the excavated portion, such as illustrated by Murio.

10. Claim 64 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ino et al (JP-03013691-A) as applied to claim 54 above, and further in view of Kawaguchi (JP-2001032277-A).

Ino et al (JP-03013691-A) disclose the features described above.

However, Ino et al (JP-03013691-A) fail to explicitly disclose a water jetting process.

Kwaguchi discloses an obstacle pile extracting method wherein high-pressure water jetting means are used for excavating the earth along the surface of an obstacle pile.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the process disclosed by Ino et al (JP-03013691-A) to include a high-pressure water

jetting means as disclosed by Kawaguchi, because water pressure jetting means are commonly used in the art for the purpose of removing or displacing material, such as taugt by Kawaguchi.

Response to Arguments

11. Applicant's arguments with respect to claims 37-65 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. More specifically, the applicant cancelled all pre-existing claims and added all new claims.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa M. Saldano whose telephone number is 703-605-1167. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather C. Shackelford can be reached on 703-308-2978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lms

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